WORKPLACE SAFETY AND HEALTH IN ILLINOIS

From The
National Institute for Occupational Safety and Health

State Profile 2002

Delivering on the Nation's promise:
Safety and health at work for all people through prevention.

The National Institute for Occupational Safety and Health

NIOSH is the primary federal agency responsible for conducting research and making recommendations for the prevention of work-related illness and injury. NIOSH is located in the Department of Health and Human Services in the Centers for Disease Control and Prevention. The NIOSH mission is to provide national and world leadership to prevent work-related illness, injury, disability, and death by gathering information, conducting scientific research, and translating the knowledge gained into products and services. As part of its mission, NIOSH supports programs in every state to improve the health and safety of workers. NIOSH has developed this document to highlight recent NIOSH programs important to workers and employers in Illinois.

The Burden of Occupational Illness and Injury in Illinois

- In Illinois, there are approximately 6.1 million individuals employed in the workforce.[1]
- In 2000, 205 workers died as a result of workplace injuries.[2]
- The construction industry had the highest number of fatalities, followed second by the transportation and public utilities industry, and third by manufacturing.[2]
- In 1999, the most recent year for which data are available, the rate of fatal workplace injuries was 3.4 deaths per 100,000 workers–below the national average rate of 4.5 deaths per 100,000 workers.[2]
- In 2000, there were 300,700 nonfatal workplace injuries and illnesses in Illinois.[3]

The Cost of Occupational Injury and Illness in Illinois

In 2000, the most recent year for which data are available, a total of $1.8 billion was paid for workers' compensation claims by Illinois private insurers and self-insured employers.[4] This figure does not include compensation paid to workers employed by the federal government and also underestimates the total financial burden for private sector businesses, since only a fraction of health care costs and earnings lost through work injuries and illnesses is covered by workers' compensation. Chronic occupational illnesses like cancer are substantially under-reported in workers' compensation systems because work-relatedness is often difficult to establish.

How NIOSH Prevents Worker Injuries and Diseases in Illinois

Health Hazard Evaluations (HHEs) and Technical Assistance

NIOSH evaluates workplace hazards and recommends solutions when requested by employers, workers, or state or federal agencies. Since 1993, NIOSH has responded to 102 requests for HHEs in Illinois, in a variety of industrial settings, including the following example:

Effingham, Illinois: Respiratory Distress and Dermal Exposures
In 1999, NIOSH responded to a union-initiated request to evaluate breathing and skin problems in the printing and bindery departments at a facility in Effingham, Illinois. NIOSH investigators concluded that workers were exposed to solvents in the air that were below limits set by the U.S. Occupational Safety and Health Administration. In addition, NIOSH concluded that workers were exposed to aldehydes and resin acids, and that some workers' skin and breathing problems might have been work-related. Recommendations included installing exhaust ventilation, providing workers with gloves that protect skin from solvents, starting a "No Smoking" program, improving housekeeping practices, instructing employees not to smoke in work areas with flammable solvents present, and instructing employees to report all possible work-related breathing or skin problems to company health care personnel.

Fire Fighter Fatality Investigation and Prevention Program

The purpose of the NIOSH Fire Fighter Fatality Investigation and Prevention Program is to determine factors that cause or contribute to fire fighter deaths suffered in the line of duty. NIOSH uses data from these investigations to generate fatality investigation reports and a database of case results that guides the development of prevention and intervention activities. Since 1997, there have been eight fire fighter fatality investigations in Illinois, including the following recent example:

Illinois: Backdraft Causes Deaths of Two Fire Fighters
On February 11, 1998, two fire fighters responding to a call entered a tire-service center to evaluate the interior. The roof of the center's service area was constructed of open wooden trusses, with unprotected polystyrene insulation glued to the underside. Four additional fire fighters climbed on the roof above the service area and cut a ventilation hole through which flames appeared within 30 seconds. All four fire fighters immediately climbed down from the roof. As the two fire fighters inside the building reached the service area, hot gases that had accumulated along the ceiling ignited, causing a backdraft. The fire fighters were knocked to the floor, while the molten polystyrene insulation from the ceiling fell on them. Attempts to rescue the two men were unsuccessful, as within 30 minutes the entire truss roof collapsed. NIOSH investigators concluded that fire fighter incident command must anticipate rare and unexpected developments. Recommendations to fire departments included: ensuring that fire fighter command conducts an initial evaluation of the scene; ensuring that the decision to ventilate a truss roof is made after evaluating the scene; ensuring fire fighters do not enter a structural fire during ventilation with a potential for backdraft; ensuring fire fighters conducting roof ventilation procedures communicate with fire fighter command; and encouraging municipalities to review their commercial building codes regarding exposed polystyrene insulation.

Building State Capacity

State-Based Surveillance
NIOSH funds the Adult Blood Lead Epidemiology and Surveillance Program (ABLES) in the Illinois Department of Public Health. Through ABLES, Public Health Department staff track and respond to cases of excessive lead exposure in adults which can cause a variety of adverse health outcomes such as kidney or nervous system damage and potential infertility.

Great Lakes Center for Occupational and Environmental Safety and Health
NIOSH funds the Great Lakes Center, one of 16 NIOSH Education and Research Centers (ERCs) nationwide. Based at the University of Illinois School of Public Health, the ERC provides graduate, residency, and fellowship training in occupational and environmental medicine, occupational health nursing, industrial hygiene, and toxicology. It also provides hazardous substance academic and continuing education training, and a program in agricultural safety and health. In fiscal year 2001, 48 students were enrolled and 17 were graduated. Ninety-eight continuing education courses were conducted for 2,670 practicing professionals.

Extramural Programs Funded by NIOSH

The following are examples of recent research contracts, research grants, training grants, or cooperative agreements funded by NIOSH in the state of Illinois.

Community Partners for Healthy Farming

NIOSH funds community-based programs that include both action-oriented surveillance programs and intervention research projects. Community Partners projects include studies of issues specific to migrant and seasonal workers, considered special populations at risk, and involve collaboration between researchers and stakeholders in the community. Through this program, NIOSH is working with the University of Illinois at Chicago School of Public Health to develop and assess the effectiveness of intervention strategies designed to reduce the incidence and severity of work-related eye injuries and illnesses in Latino farmworkers in Illinois and Michigan.

Practical Circadian Interventions for Night Shift Work

Approximately 20% of U.S. workers work night shifts and experience insomnia, fatigue, reduced alertness, impaired performance, and gastrointestinal disturbances that compromise their and others' safety. NIOSH funds Rush-Presbyterian St. Luke's Medical Center in Chicago to develop and test interventions to address these effects by phase-delaying shift workers' circadian clock, or gradually "setting it later," so that workers effectively adjust to night work schedules common in nursing and industry.

Electrical Arc Injury Parameters and Prevention

Electrocution is the second most common cause of construction-related fatalities. In addition, over half the fatalities in the chemical industry are attributable to burns, fires, and explosions, often with an electrical ignition source. The clinical spectrum of electrical injury ranges from the absence of any signs to severe multiple trauma. Reported neuropsychiatric effects can vary from vague complaints seemingly unrelated to the injury event to symptoms consistent with traumatic brain injury. Blast effects may explain why patients without external signs of electrical contact may experience nervous system or hearing impairments, however, no causal link has ever been established to guide treatment. NIOSH is funding CapSchell, Inc., to develop and test models for electrical arc events and their use in rating the severity of blast conditions in order to improve safety standards for work practices around energized equipment.

Additional information regarding NIOSH services and activities can be accessed through the NIOSH home page at http://www.cdc.gov/niosh/homepage.html or by calling the NIOSH 800-number at 1-800-356-NIOSH (1-800-356-4674).

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[1]U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics, Current Population Survey, 2000.

[2]DOL, BLS in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1999-2000.

[3]DOL, BLS in cooperation with participating state agencies, Survey of Occupational Injuries and Illnesses, 2000.

[4]National Academy of Social Insurance, *Workers' Compensation: Benefits, Coverage, and Costs, 2000 New Estimates,* May 2002.